

## DESIGN PANEL NO. 11 - 3/26/97

### DATA FUSION THREAD - BRIAN BATEMAN

#### OVERVIEW

Data Fusion involves computations using constants, measurement values, health values or other fusion values. The result of the computation is a value which has a type equal to the data fusion Function Designator (FD) found in the CLCS Databank. Each fusion FD found in the databank has the same attributes that any other FD of the same type would have with the exception that a Fusion FD does not have a hardware record but does have a fusion algorithm table associated with it. The user may use the CLCS data Fusion Editor to aid in the input of the fusion algorithm and associated information.

The Data Fusion Thread establishes the CLCS capability to provide information using multiple FDs. This thread will support initial Data Fusion editing, loading, processing, distribution, system viewing, logging and retrieving.

#### ACTIONS

	<u>ACTIONEE</u>	<u>DUE DATE</u>	<u>STATUS</u>
• Resolve the emphasis and content of Data Fusion Thread for Redstone Delivery.	R. Dawson	4/10/97	In Work
• Resolve schedule and resource constraints, a limited set of Fusion Algorithms will be supported for Redstone: <ul style="list-style-type: none"><li>■ Arithmetic operations</li><li>■ Relational operations</li><li>■ Conditional operations</li></ul>	R. Dawson	4/10/97	In Work
• Resolve the capabilities/activities that will be deferred to a later delivery: <ul style="list-style-type: none"><li>■ Evaluation of COTS tools and provide the selected tool.</li><li>■ Provide fused FD's to be utilized by the Constraint Manager.</li><li>■ Other logical and mathematical functions.</li></ul>	R. Dawson	4/10/97	In Work

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### DATA HEALTH THREAD - BRIAN BATEMAN

#### OVERVIEW

Data Health is based upon a number of parameters, some of which may be external to the system. Data Health is the term applied to the integrity of a Function Designator (FD) value which is being distributed from a CLCS subsystem. It consists of a group of flags which are associated with every FD. Each of the flags is “owned” by different processes within the CLCS system. For example, certain flags that deal with the decommutation of the data from its source are “owned” by processes in the CLCS Gateway. Other flags are owned by processes which correlate various data to determine additional “health” information about one or more Function Designators. This information is available to all CLCS processes which utilize FD data.

The Data Health Thread establishes the CLCS capability to provide health information for FD's. This thread will support initial Data Path Health editing, building, loading, processing, and viewing. This thread will support initial Data Health loading, processing, viewing, logging and retrieving.

#### ACTIONS

	<u>ACTIONEE</u>	<u>DUE DATE</u>	<u>STATUS</u>
<ul style="list-style-type: none"><li>Resolve the System Engineering concept and emphasis for Data Health including the Charter of Data Health Thread and the overall CLCS approach.</li></ul>	B. Bateman	4/4/97	In Work

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### DATA DISTRIBUTION THREAD - BRIAN BATEMAN

#### OVERVIEW

- The Data Distribution Thread supports end-to-end data flow of FDs. It provides the mechanism for the system to move data values between most elements of the CLCS, which includes the DDPs, CCPs, HCIs and SDCs. It supports retrieval of FD data by user applications and user displays.

#### ACTIONS

	<u>ACTIONEE</u>	<u>DUE DATE</u>	<u>STATUS</u>
<ul style="list-style-type: none"><li>• Due to schedule/staffing and delivery content constraints, the following Data Distribution capability will be deferred to a later delivery:<ul style="list-style-type: none"><li>■ Application Change Data Packets processing at the DDP</li><li>■ Data Constraints Function</li><li>■ Display Attributes support</li></ul></li></ul>	R. Dawson	3/28/97	In Work
<ul style="list-style-type: none"><li>• The CCP Data Function and the HCI Function are common code and will be delivered for Redstone. However, due to the lack of a real application at the CCP in Redstone, can testing be allowed with the CCP be deferred to the Thor Delivery.</li></ul>	R. Dawson	3/28/97	In Work
<ul style="list-style-type: none"><li>• Update Section 1.11, SDE-H equipment requirements.</li></ul>	B. Bateman/ D. Fougne	3/28/97	In Work
<ul style="list-style-type: none"><li>• Message/packet header needs to be defined and documented.</li></ul>	K. Loughheed	4/3/97	In Work

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### SUPER LIGHTWEIGHT TANK MONITOR THREAD - RICH IKERD

#### OVERVIEW

The Super Lightweight Tank (SLWT) Monitor Thread's purpose is to demonstrate the capability of the CLCS System (from gateway to HCI) using display monitor applications for the Shuttle vehicle/GSE systems involved in the SLWT Test. The major system functions to be demonstrated will be the display function capability using the SL-GMS dynamic data visualization tool, data health, data fusion, data distribution and the consolidated systems gateways.

#### ACTIONS

#### ACTIONEE

#### DUE DATE

#### STATUS

No Action Required

## DESIGN PANEL NO. 11 - 3/26/97

### TEST BUILD, LOAD & ACTIVATION PHASE 1 THREAD - CHARLA KING

#### OVERVIEW

Test Build, Load & Activation will provide the following capabilities for Redstone:

- TCID Build products required to support Redstone demonstration capabilities
- The ability to load a Target CLCS Set with required TCID Build products and application products
- The ability to bring a Target CLCS Set to an active state.

#### ACTIONS

<u>ACTIONS</u>	<u>ACTIONEE</u>	<u>DUE DATE</u>	<u>STATUS</u>
• Need operational requirements/concepts for positional and user login/logout which will satisfy separation of TCIDs, security, safety, shift change, etc.	R. Dawson	4/3/97	In Work
• Will the payload packet format be 16-bit as in JUNO or variable length coming out of the Consolidated Systems Gateway?	R. Dawson	4/3/97	In Work
• How is calibration going to be handled? What will be output from the Consolidated Systems Gateway vs. the GSE Gateway?	R. Dawson	4/3/97	In Work